Welcome

DEL AMO SUPERFUND SITE
COMMUNITY MEETING

DEL AMO OPERABLE UNIT – 1 (OU-1)
SOIL VAPOR EXTRACTION SYSTEM (SVE) VAPOR TREATMENT TECHNOLOGY

1941

1971

2018

The tables tonight are staffed by representatives of the Environmental Protection Agency (EPA) and consultants working on behalf of the Del Amo Superfund Site.

EPA Community Involvement Coordinator:
Romie Duarte
Phone: (213) 244-1801 • E-mail: duarte.romie@epa.gov

HELPFUL Tips

Restrooms are located in the hallway off the meeting space.

If an emergency is identified, please proceed out the main entrance of the building.

THE SITE

FORMER DEL AMO FACILITY

Harbor Gateway neighborhood (City of Los Angeles)
- A 280-acre area
- Synthetic rubber manufacturing operations

1942-1971

Synthetic rubber manufactured at the plant resulted in contamination.

1972

Plant dismantled and pits and ponds covered with soil.

1970s-1980s

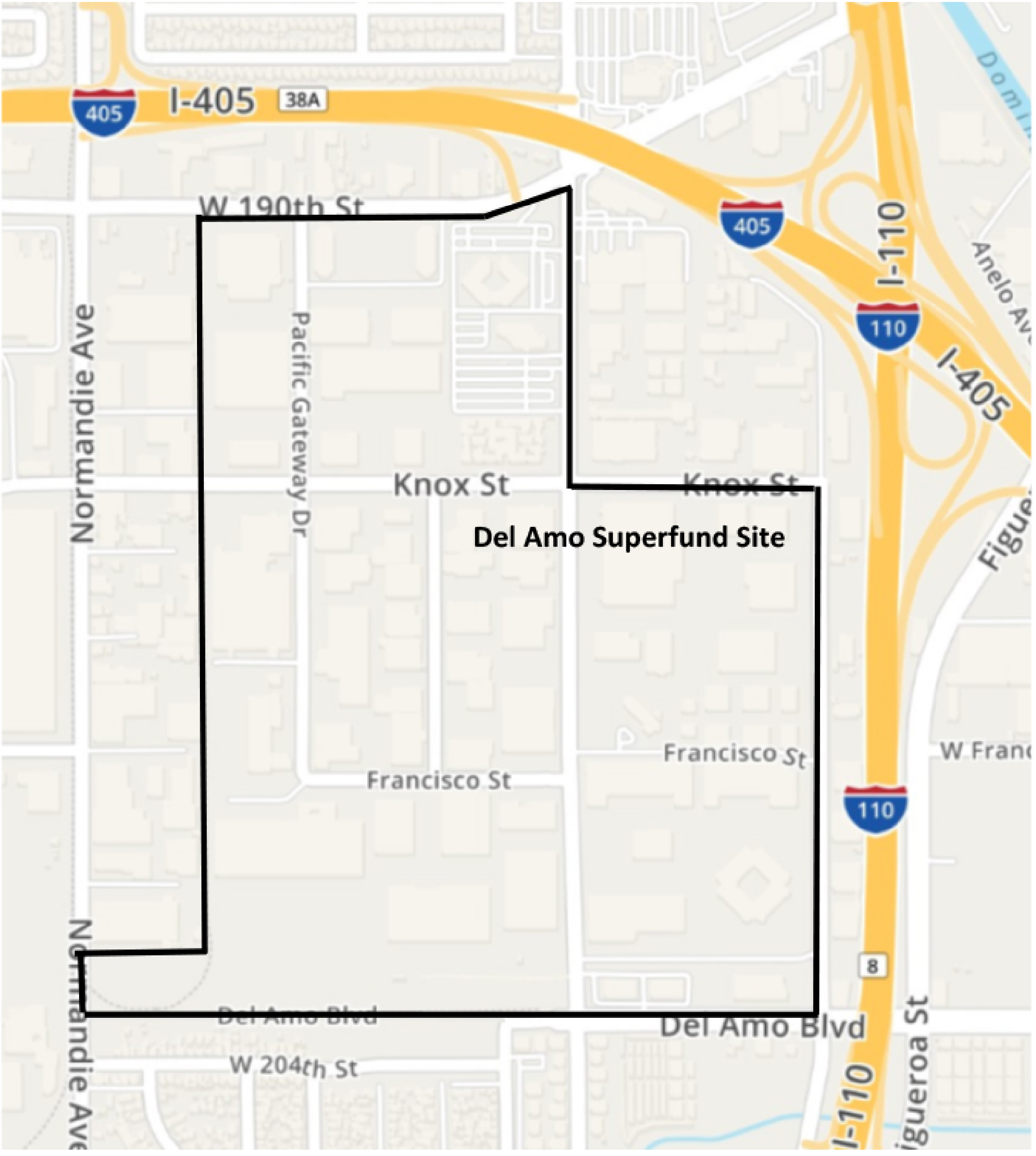
Land sold to a developer. The property was subdivided and redeveloped.

1992

EPA assumed lead agency responsibilities.

2002

USEPA placed the Del Amo site on the National Priorities List (NPL).



Zoning for the majority of the site parcels is designated as heavy or light manufacturing/industrial, with one parcel having a dual industrial-commercial zoning designation. Anticipated future land use at the site is commercial/industrial, the same as the current land use.

SUPERFUND CONTACTS AND PROCESS

AGENCY CONTACTS

Environmental Protection Agency (EPA)

OU-1 Remedial Project Manager:
Anhtu (Tu) Nguyen
EPA Superfund Division (SFD-7-2)
Address:
75 Hawthorne Street
San Francisco, CA 94105
Phone: (415) 972-3443
E-mail: nguyen.anhtu@epa.gov

Community Involvement Coordinator:
Romie Duarte
EPA Superfund Division
Address:
600 Wilshire Boulevard, Suite 940
Los Angeles, CA 90017
Phone: (213) 244-1801
E-mail: duarte.romie@epa.gov

Department of Toxic Substances Control (DTSC)

Hazardous Substances Engineer:
Safouh Sayed
Brownfields and Environmental Restoration Program DTSC
Address:
5796 Corporate Ave
Cypress, CA 90630
Phone: (714) 484-5478
E-mail: safouh.sayed@dtsc.ca.gov

SUPERFUND CLEANUP PROCESS

ASSESSMENT

- Discovery of Contamination
- Preliminary Assessment
- Site Inspection
- NPL Site Listings

CHARACTERIZATION

- Remedial Investigation (RI), Feasibility Study (FS) & Proposed Plan

SELECTION OF REMEDY

- Record of Decision (ROD)

CLEANUP

- Remedial Design
- Remedial Action

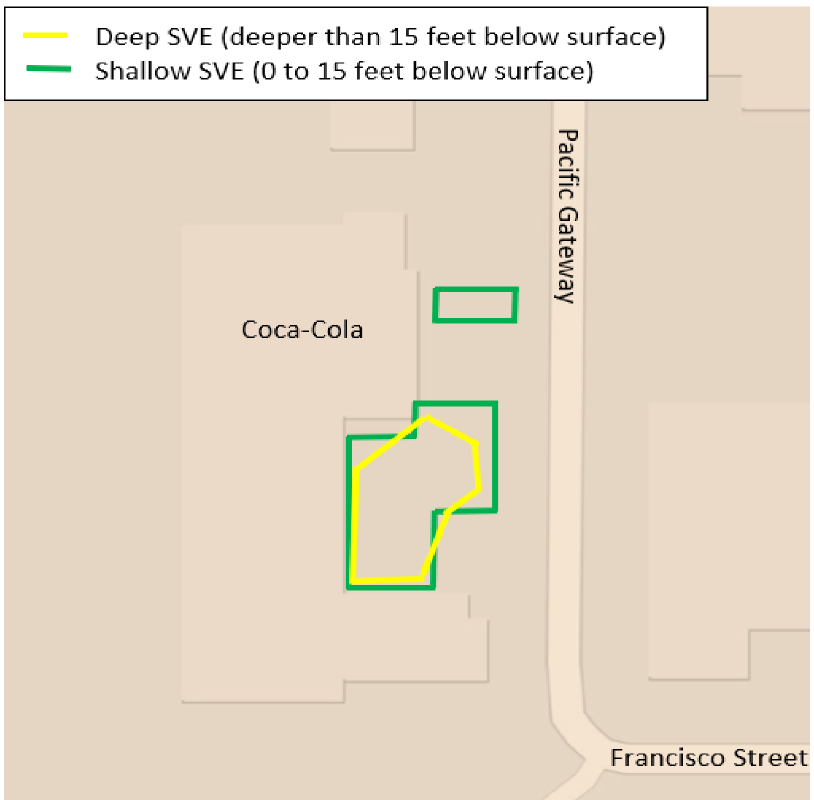
POST- CONSTRUCTION

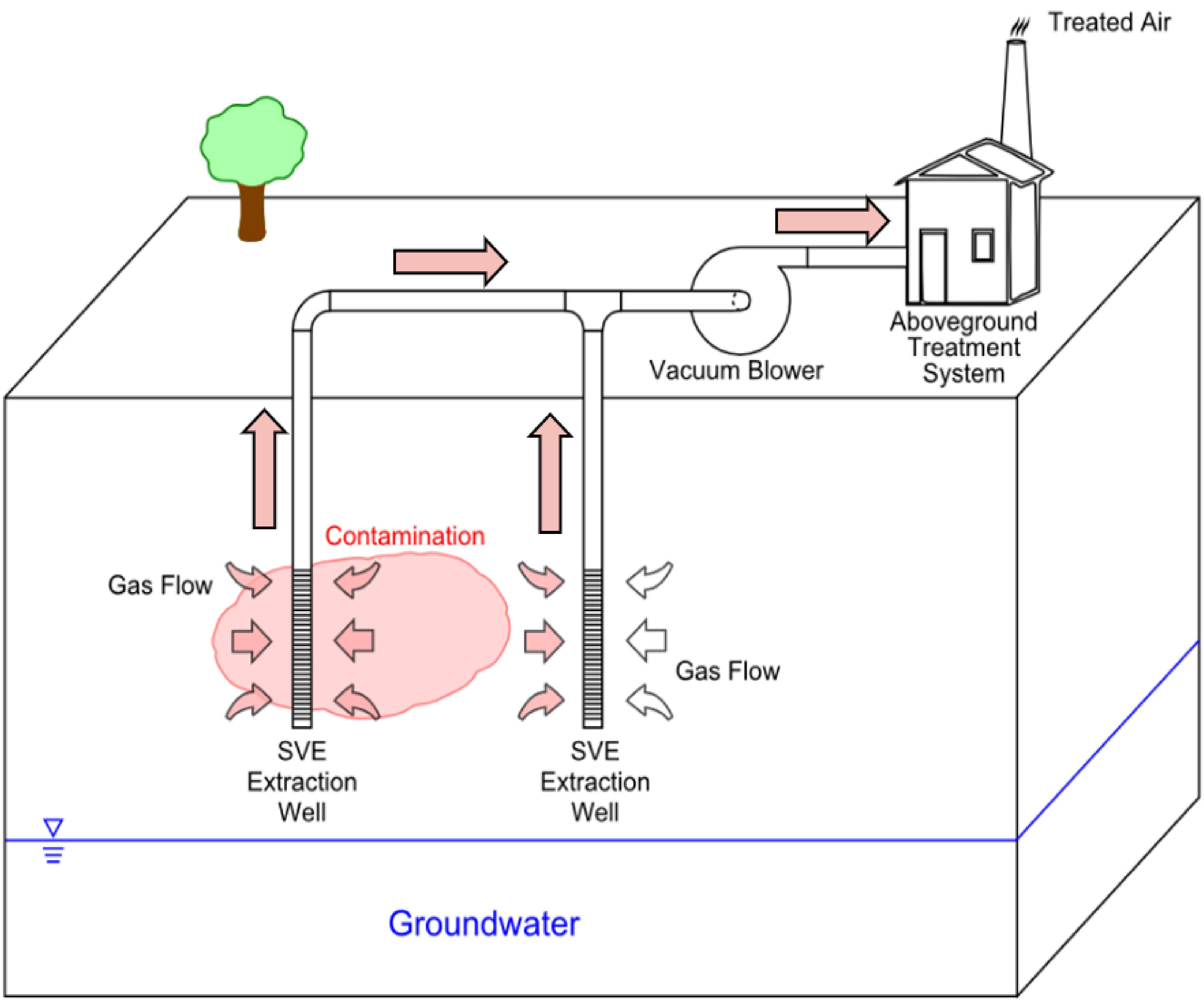
- Operation and Maintenance (O&M)
- NPL Deletion

REMEDIATION TECHNOLOGY

SOIL VAPOR EXTRACTION

1. Extraction wells are installed into the contaminated soil
2. The wells are attached to equipment that creates a vacuum
3. Vapors are pulled from the soils through wells with vacuum blower
4. Vapors are treated in aboveground equipment

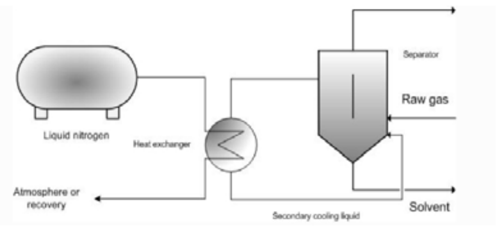




VAPOR TREATMENT TECHNOLOGY REVIEW

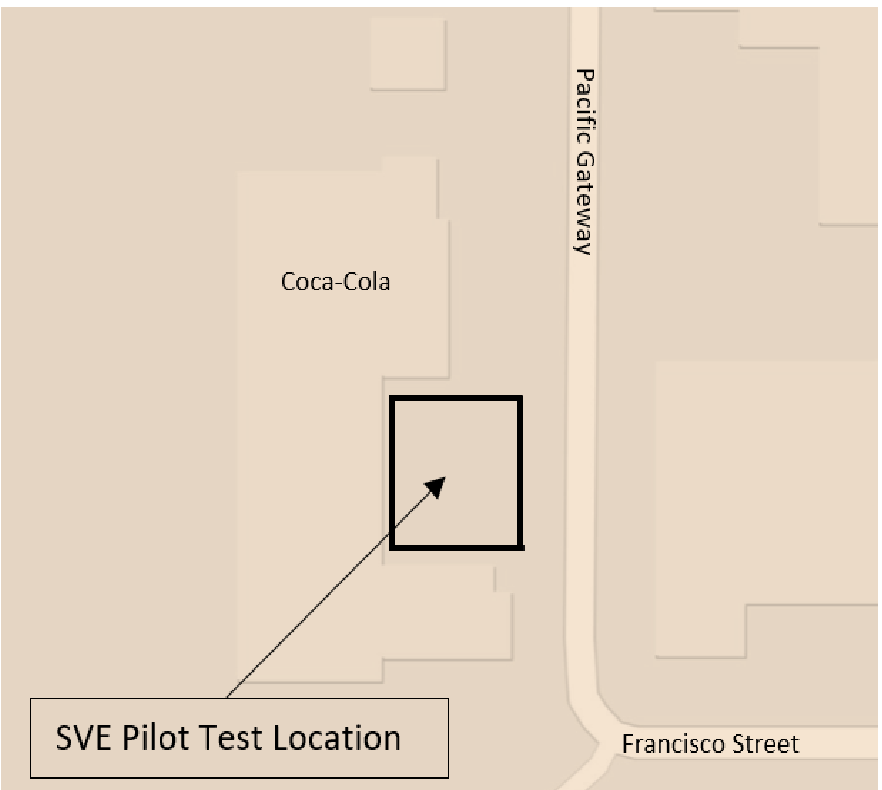
Per the Record of Decision (ROD), four cleanup technologies were evaluated.

VAPOR TREATMENT TECHNOLOGIES

TECHNOLOGY	BENEFITS	ISSUES
 Thermal Oxidizer	• Proven technology for high volatile organic compound concentrations • Highest removal efficiency of all options - up to 99.95% • High reliability • Reduced energy use by as much as 90% compared to others, reducing the carbon footprint • Waste is treated on-site, avoiding waste transportation through neighborhoods	• Up to 10 times higher fuel use for certain vapor concentrations • Need to evaluate potential for dioxin/furan creation
 Activated Carbon	• Proven technology for lower volatile organic compound concentrations (treatment area has higher concentrations) • Can achieve up to 98% removal efficiency • Lower energy use when volatile organic compound concentrations are low because technology does not need fuel for vapor treatment	• Increased transportation of contaminated materials (carbon) through the neighborhood for several years • Increased carbon footprint due to increased on-site maintenance • Prolonged cleanup time due to lower efficiency
 Cryogenic-Compression and Condensation	• Proven technology for high volatile organic compound concentrations, reduced efficiency for lower concentrations • High removal efficiency of >99%	• Recovered product requires disposal as hazardous waste by incineration • Increased transportation of contaminated materials (hazardous waste liquid) through the neighborhood for several years • Increased carbon footprint due to trucking of waste and high on-site electrical use
 Internal Combustion Engine (ICE)	• Proven technology using extracted vapors as fuel source • Lower removal efficiency of 90%-98%	• Complex system requires additional maintenance • More applicable to short-term use • Lower removal efficiency of 90%-98%

THERMAL OXIDIZER
SVE PILOT TEST RESULTS (2018)

SVE PILOT TEST PROPERTY / EQUIPMENT



THERMAL TREATMENT EFFICIENCY

ACITIVTY DATES

Shallow Test: April 2-6, 2018

Deep Test: April 9-13, 2018

RESULTS

- Treatment efficiency was at 99.75%, surpassing regulatory standards for air emissions.
- Treatment efficiency was at 98.51%, surpassing regulatory standards for air emissions.

RISK ASSESSMENT FOR THERMAL OXIDIZER SVE OPERATION

In addition to assessing the treatment technology, we also looked at potential health impacts based on state/federal standards. This is a risk assessment, which is the process to estimate the nature and probability of adverse health effects in humans who may be exposed contamination.

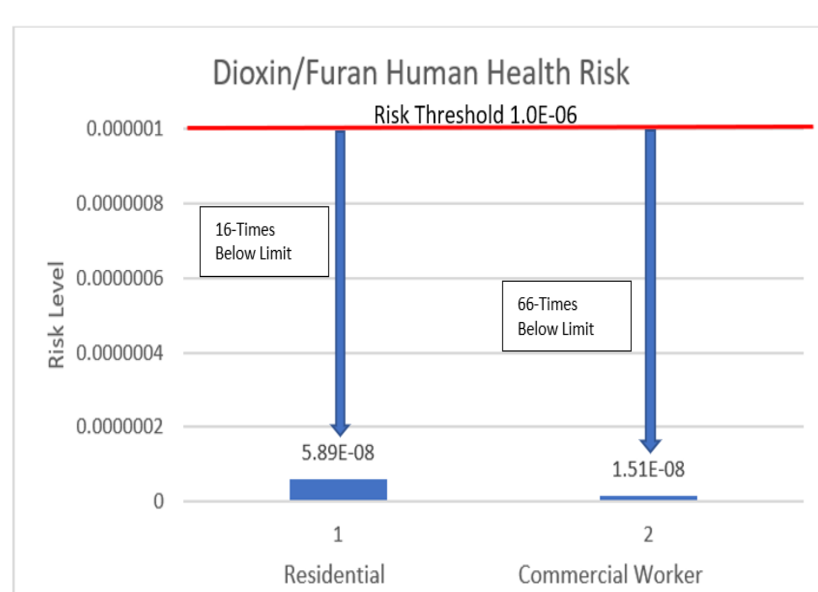
Contaminants: Dioxin/furan and toxic air contaminant (TAC) emissions projected for the full-scale system.

Distance to Nearest Resident: 1,312 feet away

Distance to Nearest Worker: 164 feet away

Results:

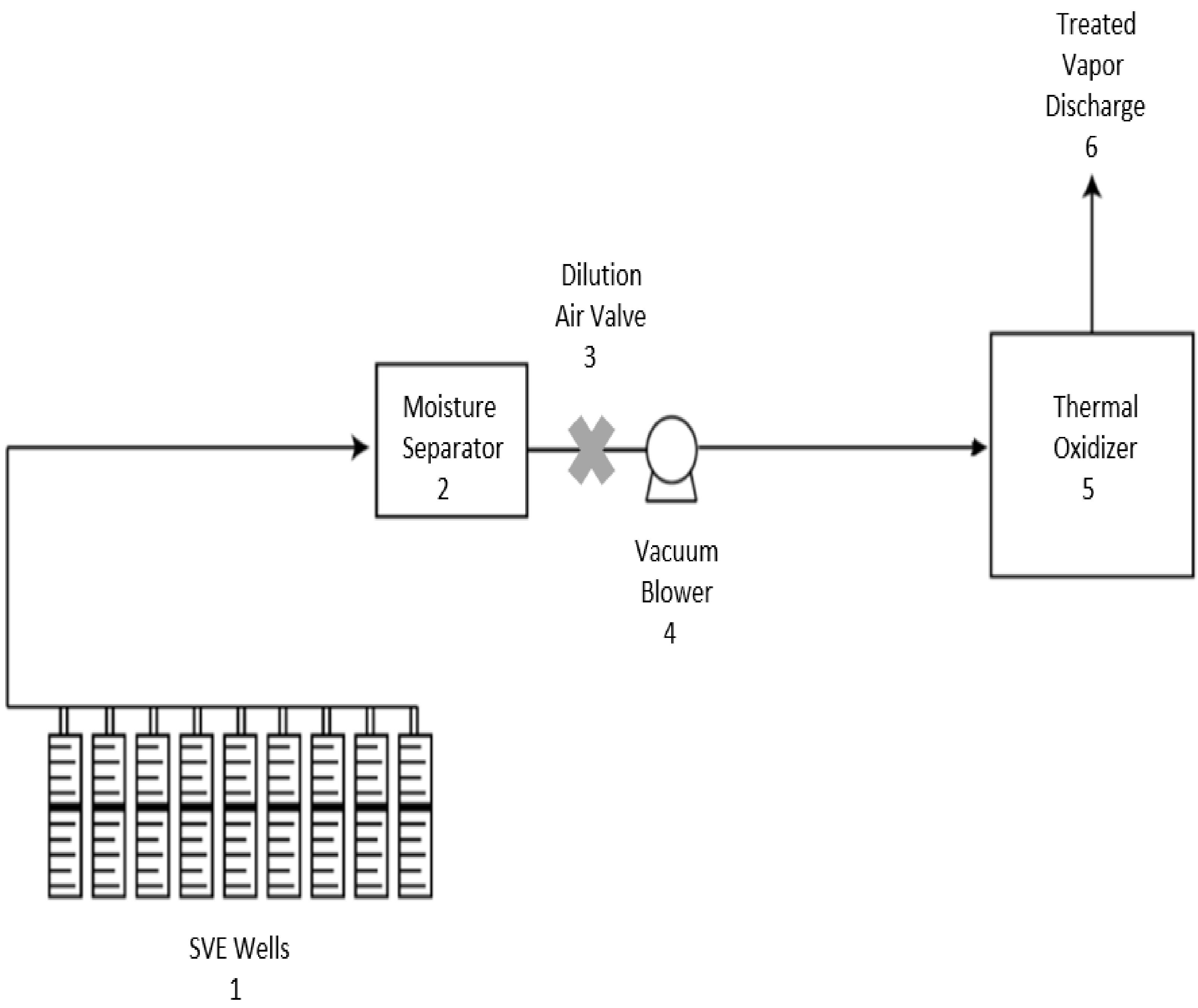
- There are **no unacceptable risks** for a resident or commercial worker, even with the worst-case emissions data.
- Dioxin/Furan exposures are approximately 1-2 orders of magnitude below the base risk threshold set by EPA
- Dioxin/Furan and TAC exposures are below the risk threshold
- Compliant with local SCAQMD requirements



RECOMMENDED SOIL VAPOR EXTRACTION SYSTEM

CONCEPTUAL SYSTEM COMPONENTS

1. **Wells:** Screened across contaminated soil. Wells are connected to piping to bring the contamination to the surface for treatment.
2. **Moisture Separator:** Removes moisture from the vapor stream prior to vapor treatment.
3. **Dilution Air Valve:** Introduces ambient air to the incoming contamination concentrations in the vapor stream allowing for more efficient treatment.
4. **Vacuum Blower:** Creates vacuum to extract the vapors from the sub-surface.
5. **Thermal Oxidizer:** Destroys incoming contamination concentrations.
6. **Discharge**: Treated vapor stream is sampled to ensure compliance with state and local regulatory standards before discharge to ambient air.



SOIL VAPOR EXTRACTION

TYPICAL SYSTEM CONFIGURATION

Typical Exterior View

Typical Interior View

Note:

Image does not show the dilution air valve or vacuum blower

PATH FORWARD